

IOWA HIGHWAY RESEARCH BOARD (IHRB)

Minutes of May 30, 2014

Regular Board Members Present

A. Abu-Hawash
K. Jones
R. Younie
S. Okerlund
R. Knoche
D. Schnoebelen

R. Kieffer
D. Miller
K. Mayberry
R. Fangmann
T. Wipf

Alternate Board Members Present

Members with No Representation

M. Kennerly
W. Weiss
P. Assman
L. Roehl

Secretary – V. Goetz

Visitors

Brian Keienleber
Sunghwan Kim
Zach Hans
Brent Phares
Basak Aldemir Bektas
Chris Cromwell
Andy Wilson
Michael Kennerly
Leighton Christiansen
Linda Narigon

Buchanan County
Iowa State University
Iowa State University
Iowa State University
InTrans
FHWA
FHWA
Iowa Department of Transportation
Iowa Department of Transportation
Iowa Department of Transportation

The meeting was held at the Iowa Department of Transportation Ames Complex, Materials East/West Conference Room, on Friday, May 30, 2014. The meeting was called to order at 9:00 a.m. by Chairperson Kevin Mayberry with an initial number of 9 voting members/alternates at the table.

Minutes

Motion to approve Minutes from the April 25, 2014 meeting

Motion to Approve by 1st R. Knoche 2nd B. Younie
Motion carried with 9 Aye, 0 Nay, 0 Abstaining.

*****1 member joined the table. Total voting members = 10**

PROPOSAL, “Upgrading Bridge Rails on Low Volume Roads in Iowa: IHRB-13-12”, Bent Phares, ISU/InTrans, (\$50,000) (15min)

BACKGROUND

Traffic barriers including bridge rail and approach guardrails play an important role in resisting the impact forces due to vehicular crashes while simultaneously redirecting vehicles onto the roadway such that these vehicles are prevented from abruptly stopping, snagging, rolling over, or vaulting over the guardrail. However as indicated by Gates and Noyce (2005), the installation of these guardrail systems on low (ADT < 400vpd) and very low-volume roads (LVRs) (ADT < 100vpd) might not be a cost-effective strategy due to the additional costs to the bridge and additional safety and maintenance issues. Note, that the use (and type) of traffic barriers on non-national highway systems such as low-volume roads are left to the discretion of the state or county, although the Federal Highway Administration (FHWA) requires bridge rails and approach railing on all National Highway System roadways and federally funded bridges.

OBJECTIVE

The objective of the project is to improve the bridge barrier rail rating system which is used by county engineers for upgrading bridge rails on LVRs in Iowa by:

- Validating the recommendations made by Bigelow et al. in 2010 by performing an updated system-wide crash analysis.
- Evaluating the potential impact of implementing the 2010 recommendations.
- Proposing updated factors/criteria to be used in a future, updated I.M.

Motion to Approve by 1st D. Miller. 2nd K. Jones.

Motion carried with 10 Aye, 0 Nay, 0 Abstaining.

*****1 member joined the table. Total voting members = 11**

DISCUSSION

Timber Bridge: Composite action of the deck with the glu-lam stringers and Epoxy decks as a weatherproofing and friction.

Q: Ship lapped deck?

A: Yes, Duane, the timber fabricator, has a special mill that he has just purchased that will allow him to do this.

Q: How thick are the deck panels?

A: Duane is working on the design that is a 5 inch deck.

Q: Did the epoxy manufacturers think this will work?

A: The manufacturers are a little lost in this process. I have tried it with the epoxy and it seems to be working.

Q: Do you have a recommendation on the preparation of the deck?

A: The concerns they have are what preservatives we have been using. We want to make sure that they all match up.

Q: Will you be putting membrane down?

A: No, this would go directly on the wood.

Q: It seems like you would really have to watch the deflection on the bridge. Are you taking that into consideration with the design?

A: Yes, that is where the composite action should help.

Q: Is this the first of its kind?

A: Yes

Q: Have we done any deflection calculations or plan on doing any deflection calculations?

A: Yes, we absolutely will.

Q: How would you know what epoxy to use?

A: I have been working with these gentlemen at building products for over a year now and have tested some epoxy.

Q: The composite action, it is between the deck and the beams?

A: The composite action is entirely different adhesive than the epoxy overlay.

Q: Does this scope include testing?

A: It includes laboratory testing, field testing and documentation.

Q: You said the USDA products lab was also interested in this project?

A: The USDA products lab has committed to funding some of the testing.

Q: How much funding are you asking for?

A: \$75,000

It was decided to request a formal proposal submittal. Due to timing need, it was decided to review the proposal via e-mail and voting would take place by e-mail proxy vote.

***** Timber Bridge: Composite action of the deck with the glu-lam stringers and Epoxy decks as a weatherproofing and friction.**

This proposal was approved Via e-mail proxy Vote on June 9th. Motion to approve A. Abu-Hawash. 2nd R. Fangman. Motion carried with 12 Aye.

Annual Meeting Calendar changes

We have changes our SPR cycle so we would like to move the priority voting for the IHRB research board to the February meeting like we did this year. We are formulizing this change and also at that time we decided to no longer meet in January and move the January meeting to March.

Motion to Approve by 1st R. Knoch. 2nd R. Fangmann

Motion carried with 11 aye, 0 nay, 0 abstaining.

Business Plan Attachment D – STIC Resolution

The IHRB agreed last year to be the Statewide Transportation Innovation Council (STIC) representative. FHWA Headquarters sent a request and would like us to adopt some type of language to state what we have agreed on. The STIC Resolution plan attachment D has been added as an attachment to our business plan.

Motion to adjourn by 1st A. Abu-Hawash. 2nd T. Wipf
Motion carried with 11 aye, 0 nay, 0 abstaining.

HR-375 Update and additional funding request

This is our funding that the board has set aside from the secondary research fund to send two new county board members every year to TRB and also the County TRB representative. We need \$15,000 to be obligated for the expenses in the last 5 years. It was proposed that we open it up to send all county members on the board to attend TRB if interested. To fund 7 county engineers for the next 5 years will be an additional \$35,000 dollars which will be a total of \$50,000 dollars proposed for the next 5 years.

Motion to approve by 1st D. Kieffer. 2nd R. Fangmann
Motion carried with 11 aye, 0 nay, 0 abstaining.

NEW BUSINESS

None

ADJOURN

The next meeting of the Iowa Highway Research Board will be held Friday, June 27, 2014, in the East/West Materials Conference Room at the Iowa DOT. The meeting will begin promptly at 9 a.m.



Vanessa Goetz, IHRB Secretary